

**Attachment 5** outlines the proposed scope of work for the Sacramento County Groundwater Authority Basin Management Objective Threshold Development and Recharge Mapping Project, as described in Attachment 4, Project Description. This Work Plan provides all necessary details to show the process by which the Sacramento County Groundwater Authority will successfully implement the project and achieve its goals and objectives. This attachment is consistent with and supports Attachments 6 and 7, Budget and Schedule, respectively.

The Work Plan for the proposed project is provided with work items at a task and subtask level consistent with the budget and schedule.

### **5.1 Scope of the Proposed Project**

The proposed project includes two primary components: developing thresholds to quantify the groundwater level Basin Management Object (BMO) (BMO Number 2 in the Central Sacramento County Groundwater Management Plan [CSCGMP]); and improving the conceptual understanding of groundwater recharge. The proposed project covers the full area of the Sacramento County Groundwater Authority (SCGA). The SCGA area and the water purveyors are shown in Figure 5-1.

Thresholds for BMO Number 2 will be developed following the procedures described in Appendix B of the CSCGMP. These procedures utilize historical data and integrated hydrologic model simulations to set a measureable “bandwidth” of groundwater levels based on the maximum and minimum simulated groundwater elevations shown through the SacIWRM 2030 Future Conditions Baseline (2030 Baseline). The 2030 Baseline will be updated as part of the project. The resulting bandwidths will be used in the SCGA data management system, HydroDMS, which was designed with the functionality to automate display of compliance with BMO Number 2 using these thresholds.

The conceptual understanding of recharge will be improved through two processes. The first process will merge available data from the SacIWRM to map the spatial distribution of recharge sources to the Central Basin. This will include river recharge, flows from the foothills, and surface recharge from rainfall and irrigation applied water within the SCGA area, resulting in a map that is compliant with AB 359 (Huffman). Additionally, a field study analyzing primarily stable isotopes, cations, and anions will be used to identify the portions of the Central Basin that are recharged from surface water courses. This will allow for improved understanding of the importance of surface water recharge as compared to aerial recharge and recharge from the foothills to the east.

The results of this project will be used by SacIWRM to evaluate the impact of land and water use changes on the surface water resources in the Central Basin. With this knowledge, more informed decisions on land uses, conjunctive use, and impacts from development can be made.



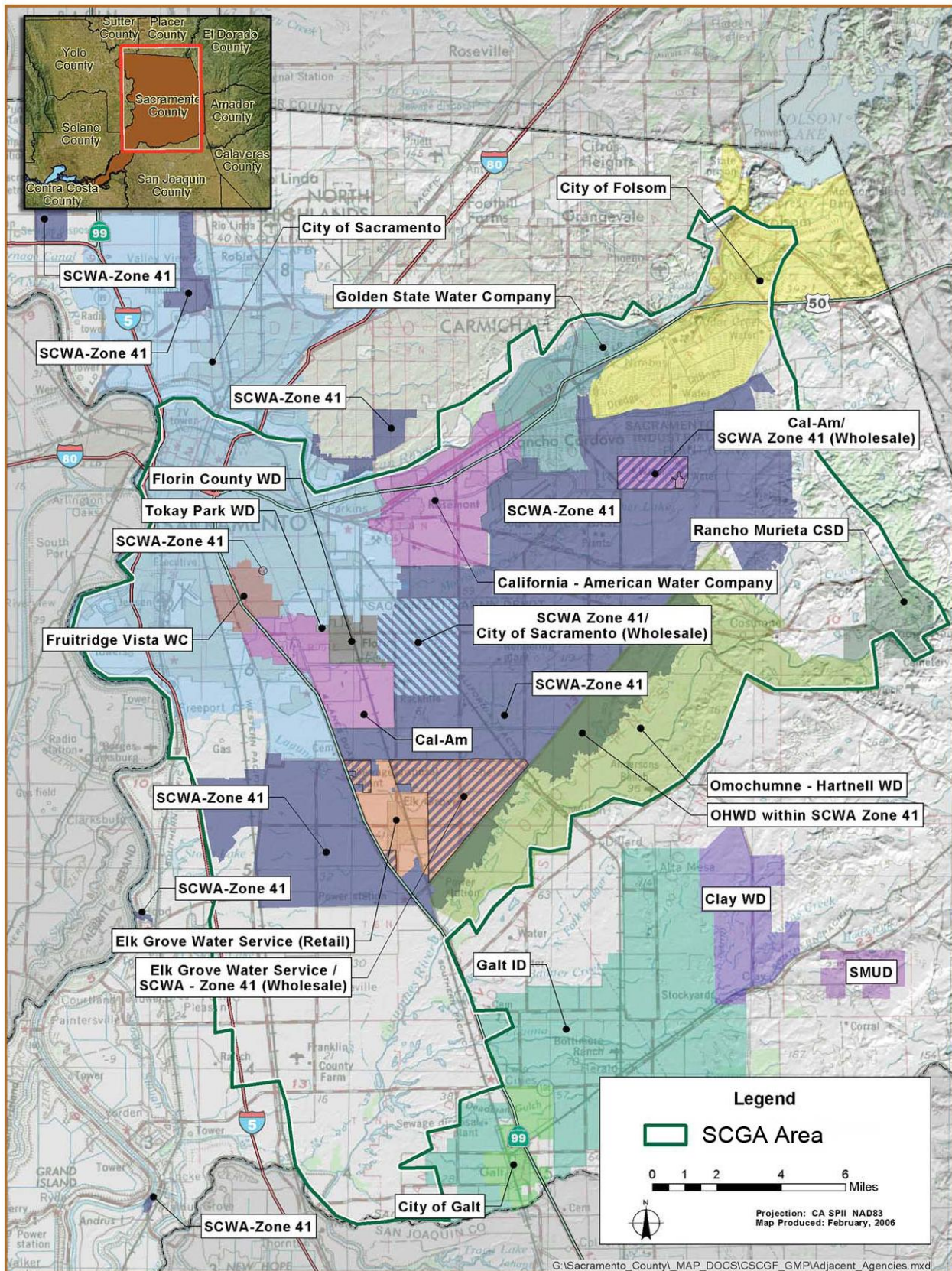


Figure 5-1. Area of Proposed Project and Agency Area

## 5.2 Purpose, Goals, and Objectives of the Proposed Project Related to Improving Groundwater Management and Implementing the CSCGMP

There are two primary goals of the proposed project:

- To improve groundwater management through the development of thresholds necessary to implement and monitor a quantitative, measureable BMO for groundwater levels
- To improve the understanding of recharge in the basin to allow for more informed land use and water management decisions.

Both of these goals relate directly to improving groundwater management and implementing the CSCGMP. The goal of the CSCGMP is:

*To ensure a viable groundwater resource for beneficial uses including water for purveyors, agricultural, agricultural residential, industrial, and municipal supplies that support the Water Forum Agreement's coequal objectives of providing a reliable and safe water supply and preserving the fishery, wildlife, recreational, and aesthetic values of the lower American River. In addition, the CSCGMP recognizes the need to maintain and enhance flows in the Cosumnes River because of its ecological significance.*

This goal is supported by five basin management objectives:

- 1) *Maintain a long-term average groundwater extraction rate of 273,000 acre-feet/year*
- 2) *Establish specific minimum groundwater elevations within all areas of the basin consistent with the Water Forum "Solution"*
- 3) *Protect against any potential inelastic land surface subsidence*
- 4) *Protect against any adverse impacts to surface water flows*
- 5) *Develop specific water quality objectives for several constituents of concern*

The development of thresholds through this proposed project will complete SCGA's ability to quantitatively monitor **BMO Number 2**. The CSCGMP specifies the criteria for development of the thresholds and actions to occur should those threshold be crossed. However, it did not specify the actual thresholds, as the CSCGMP stakeholders felt it was important to first establish governance, monitoring, and tools, which was beyond the scope of the CSCGMP.

Thresholds will improve the ability to convey regional groundwater conditions to decision-makers. Currently, groundwater conditions are summarized as groundwater elevation contour maps, making changes over time difficult to recognize for those unaccustomed to such formats.

In addition, by developing the thresholds for **BMO Number 2**, the biennial reports and data will be available at all times through SCGA's HydroDMS data management system in a manner to support management decisions.



BMO Number 2 was designed in the CSCGMP to include the thresholds, allowing for the display of color-coded polygons throughout the basin, as shown in Figure 5-2. HydroDMS provides the ability to automate the display of the color-coded polygons, allowing for efficient development of maps for decision makers and basin managers. Such color-coding will highlight areas of concern and focus water management activities where they are most needed.

The recharge component will seek to improve the conceptual understanding of the basin through identification of sources of groundwater recharge as well as the relative magnitude of each source.

Contours of recent groundwater levels (see Figure 5-3) indicate flow from the foothills in the northeast and losses from surface water courses. These recharge sources help meet pumping needs in the cones of depression in the area between the rivers. Improved understanding of the recharge sources for the Central Basin will help identify potential impacts from development in the foothills and in the eastern part of the county. In addition, it will help improve the conjunctive management of surface water and groundwater supplies, which is particularly important along the Cosumnes River basin, where surface water / groundwater interaction is critical for several habitat restoration projects. This improved understanding of recharge also will support **BMO Number 2** and will further support **BMO Number 4**. Maintaining specific minimum groundwater elevation involves managing groundwater production as well as managing recharge. The Central Basin is anticipating significant growth in the coming decades. Identification of critical recharge areas can help drive land use decisions regarding development in these areas. These may include preservation of recharge areas or managing development in a way that incorporates the improved understanding of the changes such development would bring in the groundwater system. The improved conceptual understanding of the Central Basin can guide land use and water management decisions to help meet **BMO Numbers 2 and 4** and ultimately the **overall goal of the CSCGMP**.

Finally, the recharge mapping component of the proposed project provides important technical information to support the CSCGMP, allowing for compliance with AB 359 (Huffman). AB 359 (Huffman) requires a map identifying the recharge areas, as defined, for the groundwater basin to be included in the groundwater management plan. The map to be prepared under this proposed project will be incorporated into the CSCGMP during the next update, anticipated to be in 2016.

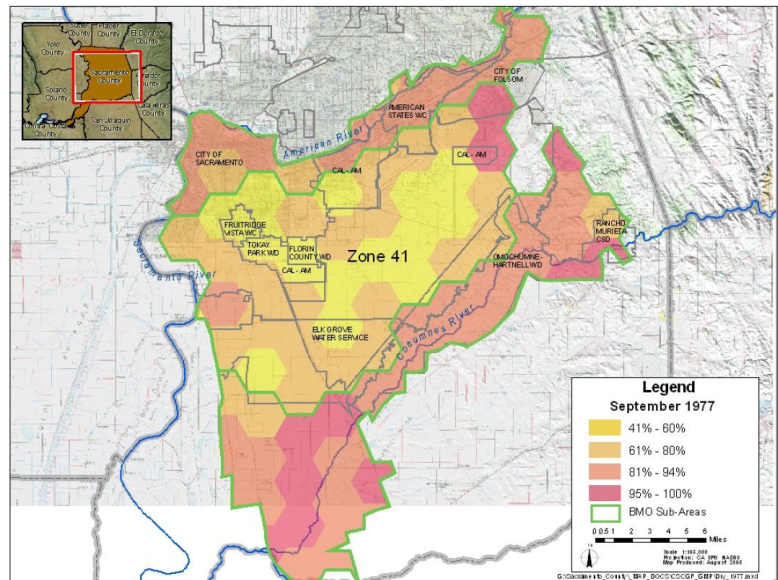


Figure 5-1 SCGA Area with Sample Color-Coded Polygons



Figure 5-3. SCGA Area and Spring 2010 Groundwater Levels

### 5.3 Work Items to be Performed

The following detailed work plan specifies the work items to be performed under each task of the proposed tasks, consistent with the budget and schedule.

#### **Task 1: Public Outreach**

Public outreach is important to the success of both the Groundwater Elevation BMO Threshold Development and the Recharge Mapping. Proper outreach will result in improved buy-in from potentially affected stakeholders. In the SCGA area, this particularly applies to four classes of stakeholders: water purveyors, private groundwater users, land use agencies, and representatives for the environment, notably the Cosumnes River. These stakeholders have a seat or seats on the SCGA Board, and the SCGA Board meets regularly to discuss relevant groundwater issues in a public forum. Thus, attending SCGA Board meetings is the best method of public outreach. The Board meetings are also part of the strategy for evaluating progress and performance of the project.

##### ***Subtask 1.1: Board Meetings***

Presentations will be made at four meetings of the SCGA Board. These meetings presentations will focus on the following:

- An initial meeting to describe the project and to provide an opportunity for input from the SCGA Board and the public. This meeting is scheduled for July 10, 2013.
- A second meeting to discuss progress on the effort, including the extension of the integrated hydrologic model simulation period, and any recommended changes in methodology or approach. This meeting is scheduled for May 14, 2014.
- A third meeting to provide an update on project progress, including the proposed thresholds, scheduled for August 10, 2014
- A fourth meeting to present the final results. This meeting is scheduled for March 11, 2015.

The presentation materials will be posted to the SCGA website and the project website following the presentation for easy access to stakeholders that could not attend the meetings.

##### ***Subtask 1.2: Individual Outreach***

It is anticipated that there will be interest in the project from agencies, potentially responsible parties at regional contaminated sites, regulators, and other stakeholders in the basin. The Individual Outreach subtask allows for additional coordination and communication with these stakeholders to address their questions, concerns, or needs.

##### ***Subtask 1.3: Website Design and Maintenance***

A public website will be developed and maintained to inform stakeholders on the project and keep stakeholders up-to-date on meetings and deliverables. The website will contain a description of the project, dates of meetings, and contact information should additional information be desired. The website will be updated throughout the project with meeting dates, presentation materials, and draft and final technical memoranda. A link to the website will be provided from the SCGA website.

#### **Task 1 Deliverables**

- Board meeting presentations
- Publically accessible website



## Task 2: Groundwater Elevation BMO Threshold Development

### Subtask 2.1: Review and Refinement of BMO Threshold Approach

The approach to developing the BMO thresholds contained in Appendix B of the CSCGMP and further defined in this Work Plan will be reviewed with SCGA staff (see Figure 5-4). The approach will be confirmed or modified, with the results of the review presented at the first project meeting with the SCGA Board.

### Subtask 2.2: Collection of Additional Data

Additional data will be collected to support the development of the water level BMO thresholds and the associated extension of the integrated hydrologic model. These data include the following:

- Land use data from the general plans for Sacramento County and the Cities of Sacramento, Elk Grove, and Rancho Cordova. The land use data will be used to determine if local planning documents show a significantly different future level of development than what is included in the current 2030 Baseline in the SacIWRM. If warranted, the land use designations for the 2030 Baseline will be modified in the SCGA area.
- Precipitation data, streamflow data, and evapotranspiration data from National Oceanic and Atmospheric Administration (NOAA), US Geological Survey (USGS), and California Irrigation Management Information System (CIMIS). These climatic data will be used to extend the modeling period from 2004 to 2011.
- Recent historical groundwater production, surface water delivery, recycled water delivery, and groundwater elevation data from SCGA member agencies.
- Groundwater elevation data from California Department of Water Resources (DWR) Water Data Library.
- Well information and projected supplies. Information from the 2010 urban water management plans (UWMPs) of SCGA member agencies will be collected to update the locations and characteristics of current and anticipated production wells and to update the projected supply mix for the agencies, if necessary. Additionally, the 2011 production data collected by SCGA in 2012 will be used to identify wells that are currently operational and their capacity.
- Aerial photography suitable for identifying changes in percent urbanization from 2004 conditions to 2011 conditions.
- Crop and Livestock Report from the Sacramento County Agricultural Commissioner to compare 2004 modeled crop acreage to 2011 crop acreage.

To the extent supported by the existing HydroDMS, these data will be incorporated into that database.

### Subtask 2.3: Update of the SacIWRM

The simulation period for the SacIWRM 2030 Baseline is currently water years 1970-2004. This task will extend the period from 2004 to 2011 through the incorporation of data collected under Subtask 2.2. The

Monitoring Action	Trigger Points	Recommended Action
BMO No. 2. Maintain specific groundwater elevations within all areas of the basin consistent with the Water Forum "solution."		
A monitoring methodology to meet specific objectives in managing groundwater levels requires a systematic, repeatable, and scientific approach. The objective of this monitoring program is to take measurements from selected monitoring wells that have sufficient construction and hydrogeologic data. Wells will be assigned to represent the polygon areas defined in Appendix B, and may be grouped within the basin in areas that are sufficiently distinct in the makeup of hydrogeology and land use. Monitored groundwater levels for a well will be compared with the designated upper and lower groundwater level threshold for each polygon that is assigned to the well. The upper and lower thresholds are termed the "bandwidth" of the polygon.	Trigger Point 1. A 25 to 50 percent encroachment into the designated bandwidth of a polygon.	Alert stage that informs the basin governance body and the overlying groundwater extractor(s) that a specific polygon area is being compromised. Activation of this trigger will take place only after the cause of the condition is thoroughly investigated.
	Trigger Point 2. A 50 to 75 percent encroachment into the designated bandwidth of a polygon.	In the event groundwater level measurements hit Trigger Point 2 without first initiating Trigger Point 1, the recommended actions of Trigger Point 1 still apply. Additionally, this stage initiates a requirement to collect a fee to secure supplemental water supplies or to reduce pumping in a predefined area(s).
	Trigger Point 3. A 75 to 100 percent encroachment into the designated bandwidth of a polygon. This indicates continuously declining groundwater levels in an area even during wet and normal hydrologic cycles, indicating that excessive pumping is the probable cause.	Well owners with operating wells in the affected area(s) will be identified and notified of the basin's condition in their area. An assessment will be levied against those owners who continue to pump at the higher level. Every attempt will be made by the governance body to ameliorate the impact assessments to private domestic groundwater pumpers.
	Trigger Point 4. Over 100 percent encroachment into the designated bandwidth of a polygon.	If the recommended actions from the first three trigger points do not result in an improvement to the affected area(s), the basin governance body will need to consider which of two actions it will take. The first is to consider whether a lower groundwater level in the area is acceptable. If so, the basin governance body has the ability to adapt to the actual monitoring data and change the model-based thresholds for management in the area.  If lower groundwater levels are deemed unacceptable, the second action would require finding supplemental water supplies and construct infrastructure for the area(s) and reduce pumping to allow groundwater levels to recover to acceptable levels. Fees in addition to Trigger Point 3 fees will be assessed to cover costs associated with this action.

Figure 5-4 BMO Monitoring, Triggers, and Actions from CSCGMP

2030 Baseline simulation will be compared to general plans, 2010 UWMP, and groundwater production information collected under Subtask 2.2 to verify that the underlying assumptions in the 2030 Baseline remain appropriate. Should changes be warranted, the land use and water supply assumptions in the 2030 Baseline will be updated to reflect these changes. The SCGA Board and the public will be informed of these changes at the second meeting, as described in Subtask 1.1. The changes will be described and the resulting impact to modeling results will be summarized through a comparison of groundwater level contours at key time periods and hydrographs at key locations.

As part of the quality control (QC) process for the extension of the period of simulation of the 2030 Baseline, the model calibration will be verified by performing the same extension to the SacIWRM Historical Calibration simulation. The Historical Calibration will be extended by incorporating the same additional climatic data, and will also be updated using recent pumping data and land use information. Recently measured groundwater level data will be incorporated into the calibration reporting to identify performance of the model during the extended time period. Any questionable results from the QC process will be investigated and resolutions will be proposed.

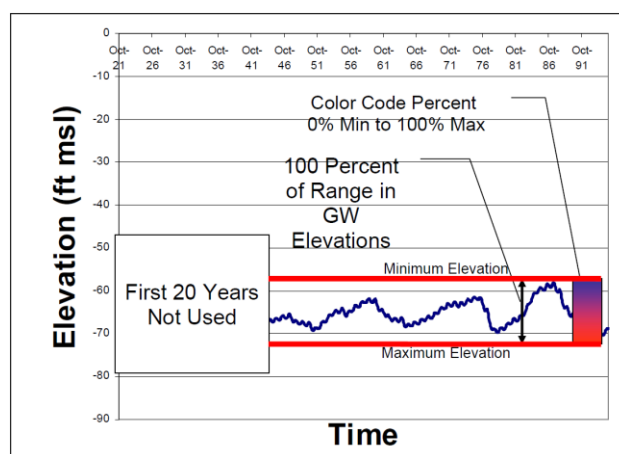
#### ***Subtask 2.4: Development of Groundwater Level Bandwidth***

As developed in the CSCGMP Appendix B, the BMO threshold is based on an analysis of SacIWRM 2030 Baseline bandwidth. This bandwidth is the range from the maximum modeled groundwater level elevation to the minimum modeled groundwater level elevation during the 2030 Baseline simulation, excluding the first 20 years during which the model is moving toward equilibrium with the 2030 conditions (see Figure 5-4). A 5 percent buffer is applied to both the minimum and the maximum elevations to allow for variability in measured data. Groundwater levels within this bandwidth can be identified by a percent of the total bandwidth, with the minimum elevation representing 100 percent, the maximum elevation representing 0 percent, and elevations between those values linearly interpolated.

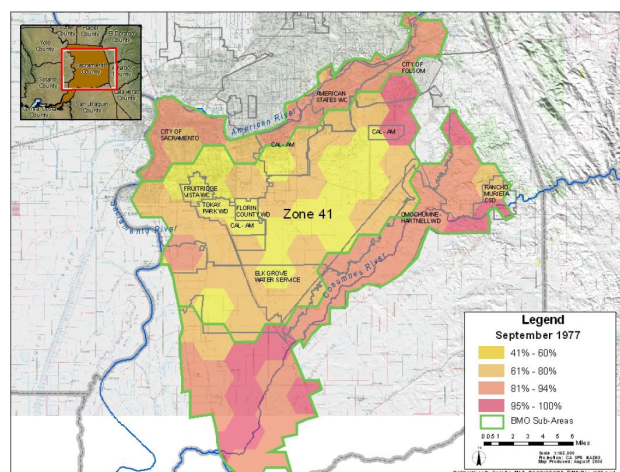
Upon completion of the extension and potential update of the SacIWRM 2030 Baseline under Subtask 2.3, a hydrograph from the center of each CSCGMP Polygon Grid Cells will be extracted from the model and the 5 percent buffer will be applied for use in developing bandwidths and thresholds.

#### ***Subtask 2.5: Merging of Polygons Grid Cells into Management Zones***

Selected existing Polygon Grid Cells will be merged together to form Management Zones. As described in the CSCGMP Appendix B, Management Zones are necessary to avoid a management program that is cumbersome, costly, and perhaps not fully understood by the SCGA Board. The CSCGMP Appendix B presents



**Figure 5-5. Sample BMO Bandwidth**



**Figure 5-6. Potential Management Zones**



a preferred representation of Management Zones, shown as the green boundary lines in the Figure 5-6. This preferred representation will be reanalyzed when the new and updated information from this proposed project and other efforts since the development of the CSCGMP become available.

This process will be based on hydrogeologic similarities and on availability of data, as follows:

1. Develop maps and tables showing wells monitored by DWR and other monitoring wells located within the CSCGMP Polygon Grid Cells.
2. Develop maps and tables identifying polygons with similar groundwater behavior, as described in the CSCGMP Appendix B Step 5. For example, polygons showing more rapid impacts from droughts and wet periods may be separated into one group while polygons showing more delayed impacts may be separated into another group. The groups will also be separated based on average groundwater level elevation to allow for a good fit between future monitored data and the developed threshold. Information gained from Task 3, relating to areas receiving significant surface water recharge, will also be incorporated into this analysis.
3. Develop draft Management Zone map, including draft methodology. Present the draft to the SCGA Board at the third meeting. Revise, if needed, based on comments and develop the final map and methodology.

#### ***Subtask 2.6: Development of Thresholds***

Based on the information developed in the previous subtasks, the thresholds will be developed. For each Management Zone the best representative monitoring well will be selected based on the following criteria:

- Historical data that
  - Shows trends and elevations consistent with other nearby wells
  - Includes 1977 to 2012
  - Includes spring and fall monitoring, with no data gaps exceeding 1 year
- Ownership by a party with a commitment to maintaining the well
- Commitment by the monitoring party to monitor at least on semi-annual basis (spring and fall).

Identification of the well for California Statewide Groundwater Elevation Monitoring (CASGEM) will be considered beneficial as this will help continue both monitoring efforts in a cost-effective manner.

#### ***Subtask 2.7 Ground-truthing***

Ground-truthing includes comparing measured groundwater elevations with the identified bandwidths. Ground-truthing will compare the following to the bandwidth:

- Current groundwater elevations
- 1977 groundwater elevations

This exercise will help identify the level of protection that may be provided to private production wells through management using the bandwidths. Current and historical groundwater elevations will be extracted from SCGA records and the HydroDMS.

#### ***Subtask 2.8: Reporting***

The new thresholds will be presented to the SCGA Board at the third meeting included in Subtask 1.1. The thresholds and the methodology also will be described in a technical memorandum that can guide continued management of the Central Basin. Review of the document will be performed by the consultant at the principal level and by SCGA staff to maintain a high level of quality. The information contained in the technical memorandum will be included in the next CSCGMP update, anticipated in 2016.

Additionally, the bandwidth information will be incorporated into the HydroDMS to allow for rapid analysis of compliance with the thresholds and for efficient reporting. Relevant new data collected as part of the task will be inputted into the HydroDMS, as appropriate.

### **Task 2 Deliverables**

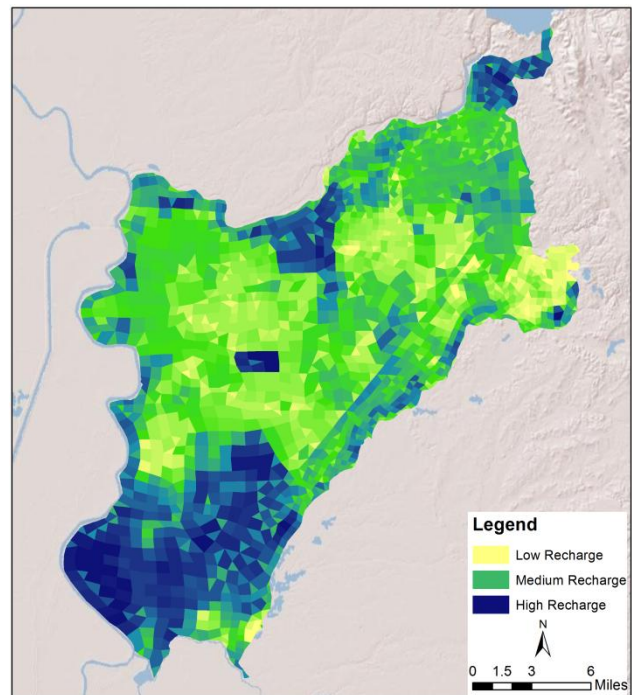
- PowerPoint presentations: Threshold development components of presentations prepared for SCGA Board and the public at SCGA Board meetings indicated in Subtask 1.1.
- Draft and final Management Zone maps
- Draft and final Technical Memorandum detailing Task 2 methodology, work performed, and resulting thresholds.
- Updated HydroDMS.

### **Task 3: Recharge Mapping**

#### ***Subtask 3.1: Recharge Map Development***

The recharge map will be developed based on land and water use conditions, soil conditions, and results of model from the Existing Conditions simulation of the SacIWRM. Model output can be provided to show average annual recharge for each of the nearly 3,000 model cells within the SCGA area (see Figure 5-7). This recharge will be presented on a per acre basis to allow comparison between grid cells and will be color coded to easily distinguish between areas of high recharge and low recharge. Additionally, the model will be used to output stream recharge (including gaining stream segments which will be represented as negative recharge) and boundary flows into the model. Stream recharge will also be displayed on a per acre basis, although boundary recharge cannot be normalized on a per acre basis. To show the relative contribution of the boundary recharge, a pie chart will be developed to show the contribution of:

- Boundary recharge from each direction
- Stream recharge
  - from the American River
  - from the Cosumnes River and Dry Creek
  - from other water courses
- Recharge from precipitation and applied water



**Figure 5-7. Data on Recharge from Rainfall and Applied Water Available from the SacIWRM**

The final map will merge together the per-acre recharge estimates, the estimated boundary recharge, and the pie charts into one figure to provide details on the importance of different components to recharging the aquifer.



### ***Subtask 3.2: Recharge Field Study***

To increase the understanding of recharge conditions in the basin, a field study and analysis of existing data will be performed. There is some uncertainty in the current understanding of the extent of recharge occurring from the American River and other surface water courses as compared to the recharge from the surface and occurring in the foothills and entering the SCGA area through underflow.

While it is relatively difficult to distinguish between water from the SCGA area and water from the low elevation foothills, isotope analysis can provide information on the extent of recharge from the American and Cosumnes rivers, which are fed by higher elevation watersheds. Oxygen-18 and deuterium sampling and analysis will be used to distinguish between the relative proportions of local low-elevation rainfall and the recharge from the surface water courses, comprised of high-elevation precipitation from the Sierra Nevada. We can utilize the isotopic data to calculate the relative proportions of recharge source waters represented by groundwater samples and improve the basin recharge understanding.

Thirty of the existing public supply wells, monitoring wells, and remediation wells in the SCGA area will be selected for sampling of oxygen-18, deuterium, cations, and anions. Well selection will be based on the following:

- Geographic coverage to develop a reasonably uniform coverage with existing wells using the polygon grid as a guide
- Geographic coverage to create detailed transects, with one transect spanning from the American River to the Cosumnes River and one perpendicular transect approximately equidistant from the two rivers
- Availability for continued sampling in the future due to the owner's intent to continue maintaining and/or operating the well
- Availability of well construction details

All wells under consideration are owned and operated by SCGA members and will be available for sampling. Sampling will be done by SCGA member agency staff trained in sampling groundwater wells with support and direction from personnel experienced in the specialized isotope sampling. The sampling will follow the guidelines of the well owner's standard procedures for water quality monitoring, which are based on Department of Public Health requirements and laboratory protocols. In addition to the collection of samples for analysis, field measurements will be recorded for depth-to-water, dissolved oxygen, pH, and conductivity. Sampling will include the collection of field blanks and duplicate samples (approximately ten percent of the total samples).

Sampling of oxygen-18 and deuterium will also occur from the American River, Cosumnes River, and Sacramento River with samples taken quarterly for a period of one year to capture variability in the concentrations in these surface water courses. Two samples of local rainfall will be taken as well. These data will provide end members for the stable isotope analysis.

All samples will be delivered to an accredited analytical laboratory with all relevant certifications. The laboratory's QA/QC Program Manual will be reviewed to ensure that the lab is capable of producing accurate and reliable results. The results of the lab analysis will be reviewed by a senior geologist or engineer upon receipt to identify potential errors or omissions in the results. The specialized oxygen-18 and deuterium analyses will be performed at the well-regarded University of California Davis Stable Isotope Facility. The analytical laboratory will use standard methodologies for their analyses of oxygen-18, deuterium, cations, and anions, including US Environmental Protection Agency Methods 300.0, 200.7, and 6010, and SM2320B, or equivalent.

***Subtask 3.3: Analysis of Analytical Results***

The relative contribution of the recharge sources will be estimated and presented using the data collected under Subtask 3.2. These results will be shown spatially on maps to identify the variability of recharge sources across the basin. Cation and anion data will be used to support the conclusions developed based primarily on the oxygen-18 and deuterium data. This will include development of stiff diagrams and piper charts to show areas with similar waters and to show how the groundwater chemistry changes through the Central Basin. Summary tables will be provided to show analytical results along with available well construction details. The results and an interpretation of the results will be included in a draft and final technical memorandum described in Subtask 3.5.

***Subtask 3.4: Verification of Model***

The analytical results will help show the distribution of river water in the aquifer system. This information will help refine the understanding of the extent of recharge from the river systems. The new understanding will be compared to the current understanding as represented in the SacIWRM. The SacIWRM Existing Conditions Baseline will be run under at least a 100-year simulation period to allow for significant recharge into a large portion of the basin. The recharge will be tracked using the particle tracking tool. Particles will be started across the basin, identified by recharge source (e.g., American River, Sacramento River, Cosumnes River, surface recharge, boundary recharge). The particle tracking tool will track the particles as they flow through the simulated groundwater system. At the end of the simulation, the number of particles from each source in each model polygon will be added to determine each source's relative contribution to recharge. This result will be compared to the results from the field study to determine if there is a need to refine the model in the future to incorporate the new information gained through this effort, refining the relative contribution of surface water to the groundwater system. The results and an interpretation of the results will be included in a draft and final technical memorandum described in Subtask 3.5.

***Subtask 3.5: Reporting***

The methods, results, and conclusions from Task 3 will be presented in a technical memorandum developed in draft form for review, with comments incorporated into the final version. Review of the document will be performed by the consultant at the principal level and by SCGA staff to maintain a high level of quality. The final technical memorandum will be shared with the SCGA Board and the public at the final meeting described in Subtask 1.1.

**Task 3 Deliverables**

- Recharge mapping components of four PowerPoint presentations to the SCGA Board and the public at SCGA Board meetings indicated in Subtask 1.1.
- Draft and Final Technical Memorandum detailing the methodology, work performed, and results of work performed under Task 3.



#### **Task 4 Project Management and Coordination**

The project manager will direct the technical activities subject to the overall direction provided by the SCGA Board, stakeholders, and DWR. This will encompass overall technical direction of the work effort, review of all deliverables and work products, communications with local agencies, scheduling of project meetings and conference calls, and fiscal administration of the project.

##### ***Subtask 4.1 Coordination with DWR and Other Stakeholders***

SCGA will coordinate with DWR and other stakeholders to ensure the project purpose is met with full participation. This task also includes California Environmental Quality Act (CEQA) compliance; this effort is a planning effort that is considered categorically exempt from CEQA. Work will be performed to verify this exemption.

##### ***Subtask 4.2 Monthly Progress Reports***

Monthly consultant progress reports will be developed for SCGA to inform the agency on progress and accomplishments and the status of budget and schedule. These reports will be used in the preparation of Quarterly Reports to DWR under Subtask 5.2. They are also a key part of the strategy for evaluating progress and performance at each step of the proposed project.

#### **Task 4 Deliverables**

- Monthly progress reports to SCGA

#### **Task 5 Administration**

##### ***Subtask 5.1 Develop and Administer Contracts***

Development and administration of contracts with DWR will be conducted by SCGA through in-kind staff time. No grant funding will be spent on contracts administration.

##### ***Subtask 5.2 Development of Quarterly Reports and Final Report***

Development and submittal of quarterly reports and the final report to DWR will be conducted by SCGA through in-kind staff time. No grant funding will be spent on quarterly report preparation.

##### ***Subtask 5.3 Coordination with DWR***

Coordination with DWR project manager on progress and unanticipated activities will be conducted by SCGA through in-kind staff time. No grant funding will be spent on coordination with DWR .

#### **Task 5 Deliverables**

- Quarterly reports and final report to DWR

## 5.4 Strategy for Evaluating Progress and Performance

Progress and performance of the proposed project at each step will be evaluated through deliverables, meetings at the SCGA Board, quarterly and final reports to DWR, and monthly progress reports from the consultant to SCGA. Deliverables are included in the Work Plan to show completion of steps of the project.

Presentations at the meetings at the SCGA Board will show the progress of the project at four key phases and will allow for the assessment of performance through the quality and quantity of information shared at those meetings. The quarterly and final reports to DWR, and monthly progress reports from the consultant to SCGA will provide detailed information on the progress at the task level to indicate progress and performance at each reporting interval.

## 5.5 Project Deliverables

As noted above, the tasks include deliverables to allow for assessing progress and accomplishments. These deliverables include:

- Board meeting presentations
- Publically accessible website
- PowerPoint presentation for the four SCGA Board meetings.
- Draft and final Management Zone maps
- Draft and final Technical Memorandum detailing the methodology, work performed, and resulting thresholds from the groundwater elevation BMO threshold development task.
- Updated HydroDMS
- Draft and final Technical Memorandum detailing the methodology, work performed, and results of work performed under the Recharge Mapping task
- Monthly progress reports to SCGA
- Quarterly Reports and Final Report to DWR

## 5.6 Property Access

No access to private property is required as part of this proposed project. Property access is limited to sampling of wells owned by SCGA member agencies, which are public agencies or private water purveyors.

## 5.7 CEQA and Permitting

As a project involving only feasibility or planning studies for possible future actions which the agency, board, or commission has not approved, the proposed project is considered exempt from CEQA (CEQA Statutes Section 21102). No permits are anticipated for successful project completion.